

# Hallmark Software Testbed (Hallmark-ST)

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Architecture to Enable  
Space Enterprise Command and Control

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Hallmark-ST BAA Overview and Q&A Session

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Thank you for attending

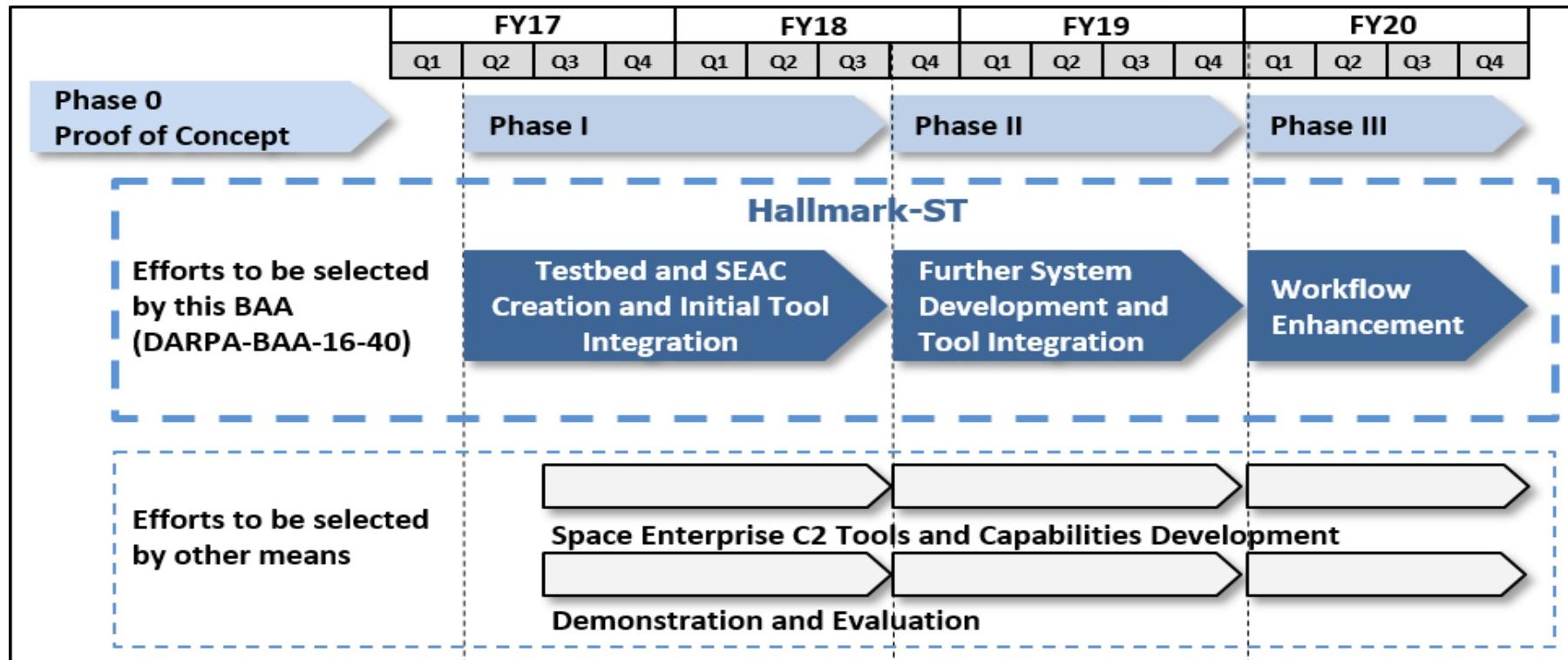
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**This published BAA supersedes anything that may be discussed today.**

**<https://www.fbo.gov/spg/ODA/DARPA/CMO/DARPA-BAA-16-40/listing.html>**

**When in doubt, refer to the BAA.**

**Hallmark-ST is seeking to design and develop an integrating enterprise software architecture as well as provide a Space Enterprise Analysis Capability (SEAC).**

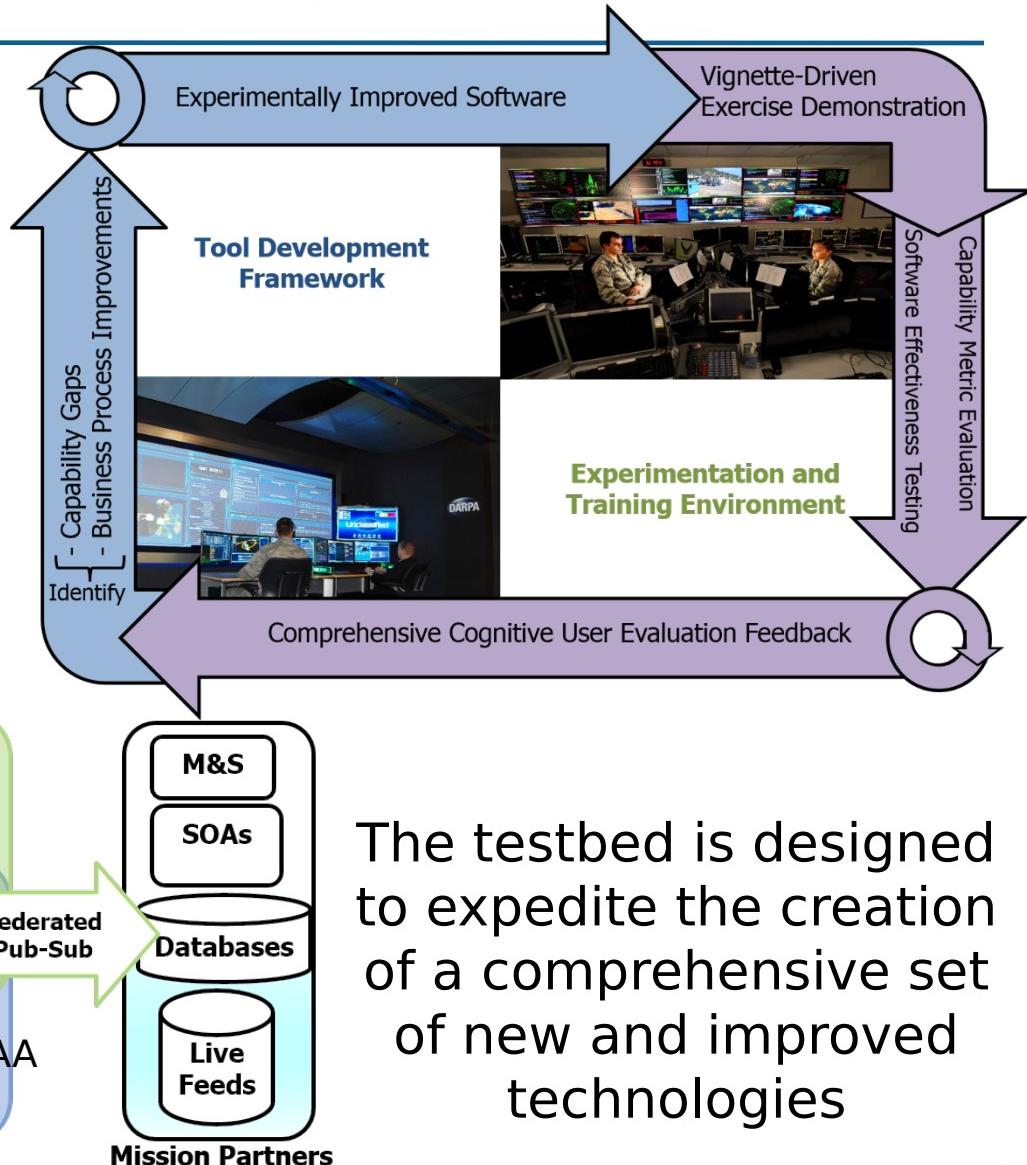


DARPA is seeking to develop a testbed for measuring, understanding, and integrating the complete spectrum of systems and capabilities to ensure stability, security, and U.S. operational dominance in space.



# Hallmark-ST Role in Full Program Process

Hallmark-ST aims to become the backbone that permits tool development and experimentation



The testbed is designed to expedite the creation of a comprehensive set of new and improved technologies

Hallmark-ST architecture would permit rapid tool development and quantified experiments



## **Architecture**

- Develop scalable and flexible service-oriented enterprise architecture for integrating space C2 tools and capabilities
- Application program interfaces (API)
- Hallmark-ST integration guide

## **Space Enterprise and Analysis Capability (SEAC)**

- Integration of tools, capabilities, and data
- Execution of tests and scenario-based exercises

## **Ontology for space enterprise operations**

- Inform the data model
- Part of BAA response

The API, Hallmark-ST integration guide, a draft Hallmark ontology and data model will be delivered by the performers within six months of authority to proceed.

The goal is a comprehensive and effective set of space command and control (C2) capability technologies that can be spiraled into the Joint Space Operations Center and/or the Joint Inter-Agency Combined Space Operations Center.



# Architecture Traits Would Permit Co-development of Capabilities

## **Successful proposals should address:**

- Secure enterprise architecture design
- Implications of federated architecture approaches
- Applications of foundational architectures to space C2 functional task elements
- Specification of application programming interfaces (APIs)
- Data format specifications
- Data repository design and implementation
- Concrete strategy for the speedy and effective integration of space C2 tools, capabilities, and mixed-mode data

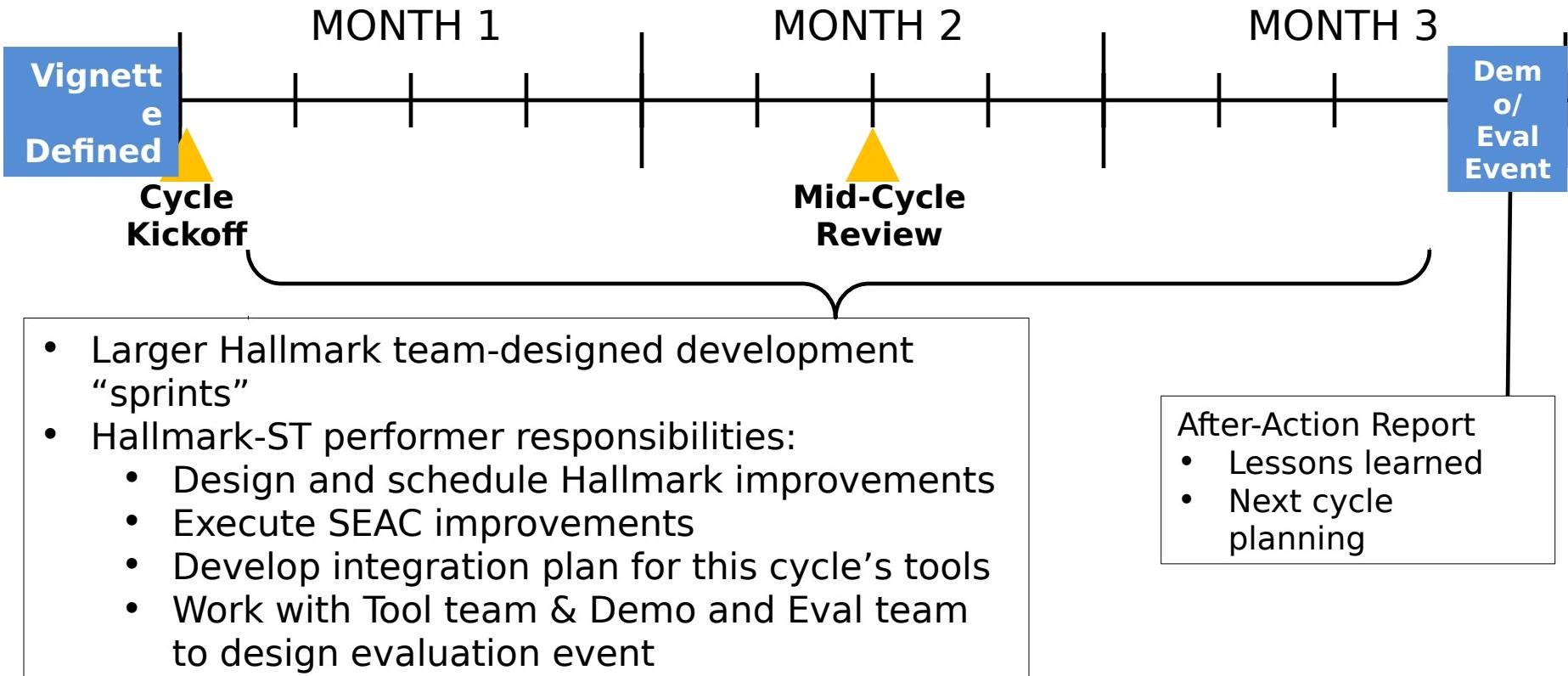
## **Anticipated tools and capabilities to be integrated in Hallmark-ST include:**

- Space situational awareness
- Indications and warning
- Modeling and simulation
- Course of action generation
- Decision/action determination
- Damage assessment

Hallmark-ST proposers should address the anticipated integration of the tools and capabilities by other contractors selected by other means. The "Hallmark-ST Integration Guide" document is a deliverable designed to ensure software and system/capability providers can be easily integrated with Hallmark-ST.



# Planned Three-Month Cycles





## A Successful Proposal Should:

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### **Integration**

“The proposal should address API, and ontology, and data model development

experiences and what processes and technologies enable rapid release.”

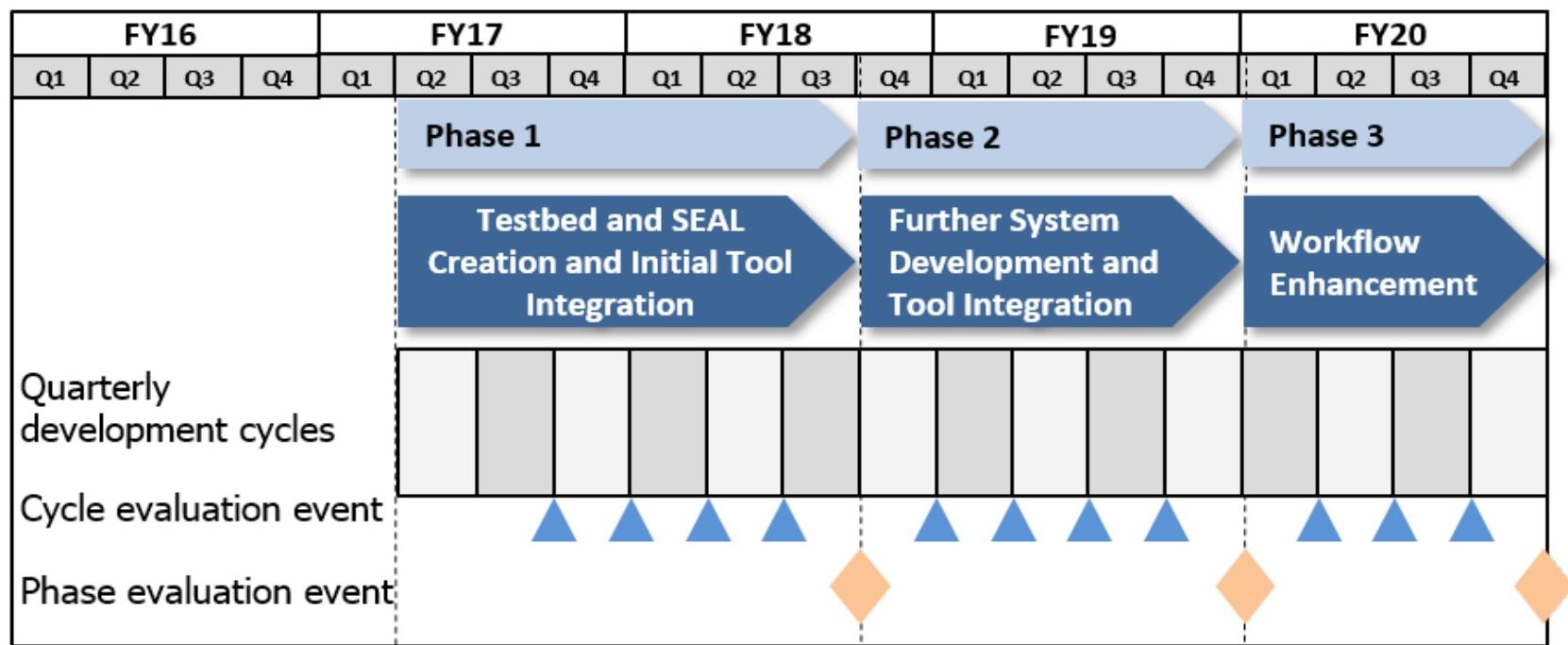
### **Data Model**

“Proposals should explain how this data model will evolve along with the Hallmark space ontology and will conserve resources in terms of maintenance costs and data sharing.”

17 elements in requested technical information within the BAA  
**Proposals will be evaluated on the following criteria, listed in descending order**

- Overall scientific and technical merit
- Potential contribution and relevance to the DARPA mission
- Cost realism
- Proposer's capabilities and/or related experience

**Hallmark schedule seeks to provides transitional capability in FY2020 -permitting an enduring capability to support operational R&D development**



## **Key near term Milestones**

- Proposers responses BAA due by August 15, 2016
  - DARPA will provide response to NLT September 30, 2016



# Effective Proposals Will/Will Not:

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## Will

- Possess these key developer attributes
- Address the bulleted list from BAA of success criteria
- Describe how the architecture will facilitate easy tool integration
- Emphasize a tool integration plan as implemented in the Hallmark-ST integration guide

## Will Not

- Address cognitive engineering
- Propose the evaluation of demonstration events
- Propose specific tool applications
- Propose an O&M-laden architecture that cannot sustain flexibility, scalability, or extensibility



## Question and Answer Session

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